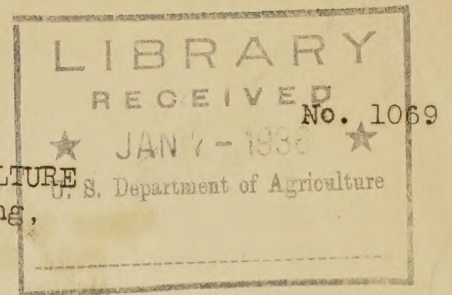


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UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Engineering,

WHAT DRAINAGE HAS ACCOMPLISHED

By

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The Fifteenth Census of the United States taken January 1, 1930, shows that at that time there were 84,408,093 acres of land in operating drainage enterprises, estimated to cost when completed \$680,732,880 or an average of \$8.06 per acre. This acreage is approximately 4.4% of the total area of the United States or greater than the combined area of the states of Ohio, Indiana, and Iowa.

What has been accomplished by this work? What has been gained by expending this vast sum upon drainage improvements? To give a work picture of the immense change that has been wrought one can do no better than to quote briefly from that interesting book, "Long's Expedition to the Source of St. Peters River in 1823", written by W. H. Keating, Professor of Mineralogy and Chemistry at the University of Pennsylvania, and published in 1825. The Long Expedition, undertaken in 1823 by order of Hon. J. C. Calhoun, Secretary of War, was made to obtain reliable information concerning the conditions existing in the then undeveloped country lying to the west of Pennsylvania.

The expedition left Philadelphia in April, 1823, travelled to Lake Winnepeg by the way of Baltimore, Washington, Pa.; Zanesville and Columbus, Ohio; Ft. Wayne, Indiana; Chicago; Prairie du Chien, Wisconsin; thence up the Mississippi to the mouth of the Minnesota River (then called the St. Peters); up the Minnesota River to Lake Traverse; and down the Red River of the North to Lake Winnepeg. The return journey was made along the Winnepeg River, through the Lake of the Woods and Rainy Lake, thence to Lake Superior and by water through Lake Superior, Lake Huron, Lake Erie and Lake Ontario to Rochester, N. Y. The report is filled with excellent descriptions and accounts of thrilling adventures and is one of the most interesting volumes I have ever read. Mr. Keating's description of the drainage conditions was especially interesting to me. For instance the description of the conditions existing at that time to the east of Fort Wayne is very striking. He says:

"Near to this house we passed the state line which divides Ohio from Indiana." xxx "The distance from this to Fort Wayne is 24 miles, without a settlement; the country is so wet that we scarcely saw an acre of land upon which a settlement could be made. We travelled for a couple of miles with our horses wading through water, sometimes to the girth. Having found a small patch of esculent-grass (which from its color is known here by the name of blue-grass), we attempted to stop and pasture our horses, but this we found impossible on account of the immense swarms of mosquitoes and horse flies, which tormented both horses and riders in a manner that excluded all possibility of rest."

His description of the land just south and west of Chicago is also interesting.

"From Chicago to the place where we forded the Des Plaines, the country presents a low, flat, and swampy prairie, very thickly covered with high grass, aquatic plants, and among others the wild rice. The latter occurs principally in the places which are still under water; its blades floating on the surface of the fluid like those of the young domestic plant. The whole of this tract is overflowed during the spring, and canoes pass in every direction across the prairie."

One traveling over the same territory today and noting the well-cared-for productive fields, the substantial and attractive farm buildings, the good roads, and splendid school buildings, does not as a rule recall that all of these developments have been made possible by drainage -- that, if such work had not been done, the territory would still be in much the same state as when passed over by Major Long's party.

Coming down to more recent times there are many living today who can remember when large portions of central Illinois and southern Indiana were too wet to be successfully cultivated; when malaria was prevalent and "chills and fever" considered an unconquerable evil forever to be associated with the area. Land values were low and the general atmosphere was depressing. Along about 1830 drainage began to come into prominence. Outlet ditches were constructed and the wet lands tile drained. Immediately a change in conditions was apparent. Land that before drainage could not be cultivated, became the most fertile land in the community; crop production increased, farm homes were built and these once inhospitable areas rapidly took their place among the most desirable sections of the United States.

Similar developments have taken place in northern Iowa and in southern Minnesota. Before drainage was introduced, a large part of the area in this section was in shallow lakes or sloughs, or was so wet for a large part of each year that crops could not be produced profitably. Today - after drainage - the greater part of this area contains the most fertile land in the section.

Successful agriculture and drainage seem to be closely related. The states of Ohio, Indiana, Illinois, and Iowa, hold front rank in agricultural development. Notice also that they also hold front rank in the amount of drainage improvements constructed. A comparison of the locations of highly-developed farm land and of community drainage enterprises shows that in a majority of cases the two travel hand-in-hand.

There can be no doubt as to the general results obtained by drainage improvements; otherwise the land-owners, who pay the cost of such improvements, would soon find a method of putting a stop to such work.

